

7 In the Claims:

1. (currently amended) A paging system for providing page messages to radio receiving paging units over a wide area through a plurality of page message transmission systems in which each of said transmission systems ~~are~~ is associated with a predefined coverage area in said wide area, said system comprising:

a system controller having memory storing a routing database registering each of said paging units with one of said transmission systems, in which said controller routes page messages received by said system to each of said paging units through one of said transmission systems to which the paging unit is registered in accordance with said routing database, wherein the transmission system to which each of the paging units is registered represents the transmission system registered to the paging unit;

D a plurality of transmission systems, each of said transmission systems being operative ~~having means~~ for sending page messages received from the system controller to paging units; ~~and means~~ and for sending periodically a system message having at least information which uniquely identifies the transmission system to distinguish the transmission system from other transmission systems in the paging system;

a plurality of paging units for receiving the system messages of at least one of the transmission systems when located in the associated coverage area of said one transmission system and receiving the page messages from the transmission system registered to the paging unit when the paging unit is located in the coverage area of the transmission system registered to the paging unit, in which one or more of said plurality of paging units ~~represent~~ are one-way ~~paging units without RF transmission capability over a two-way paging network;~~

B each of said paging units ~~having means~~ including a memory storing information representing the current registered transmission system of the paging unit and a respective paging unit controller for determining when the paging unit receives at least one of the system messages sent by one of said transmission systems different from the current transmission system registered to the paging unit, ~~and means, responsive to said determining means;~~

sending means for sending to the system controller at least ~~the information uniquely~~ information identifying the transmission system from said received system message sent by

one of said transmission systems different from the current transmission system registered to the paging unit; and

said system controller having updating means, responsive to said sending means of each of said ~~paging units~~, for updating the registration of the paging unit in the routing database to one of the transmission systems different from the current transmission system ~~in accordance with the information received from the sending means of the paging unit~~, and sending to the paging unit via one of said transmission systems at least information representing the updated transmission system registered to the paging unit ~~, in which the paging unit receives, and operates the determining means of the paging means responsive to, the information representing the updated transmission system.~~

2. (currently amended) The paging system according to Claim 1 wherein ~~each of said paging units has memory storing the information representing the registered transmission system of the paging unit, and~~ said paging unit controller is operative to update ~~updates~~ said memory of the paging unit in accordance with the information representing the updated transmission system received from the system controller via one of said transmission systems.

3. (currently amended) The paging system according to Claim 1 wherein said updating and sending means of the system controller updates the registration ~~, responsive to the sending means of each of the paging units, to one of~~ to the transmission systems provided in the information from said sending means of the paging unit and another of the transmission systems having approximately the same coverage area as the transmission system identified by the information from said sending means ~~of the paging unit~~.

4. (currently amended) The paging system according to Claim 1 wherein each of said transmission systems has a respective unique identifier and the system message ~~sending means~~ of each of the transmission systems ~~sends the system message having~~ includes at least the respective unique identifier for the transmissions system, wherein said unique identifier represents the information uniquely identifying the transmission system.

5. (currently amended) The paging system according to Claim 4 wherein said unique identifier of each of said transmission systems represents a unique first identifier comprising at least a second identifier in coded form representing a regional transmission system operating the coverage area associated with the identifier in said wide area and a third identifier in coded form representing the frequency of transmission of the transmission system.

6. (currently amended) The paging system according to Claim 5 wherein each of the paging units has a receiver which, responsive to receiving the first identifier of the updated transmission system registered to the paging unit from the system controller, is set to receive paging messages and system messages for the frequency of transmission in accordance with the third identifier of the first identifier of the updated transmission system.

7. (currently amended) The paging system according to Claim 5 ~~-4~~ wherein the sending means ~~of each of the paging unit~~ sends at least information including said ~~first~~ second identifier of the transmission system of the received system message, and the updating ~~and sending~~ means of the system controller, responsive to the sending means ~~of each of the paging units~~, updates the registration of the paging unit to the first identifier of the transmission system having at least the second identifier which is the same as the second identifier ~~of the first identifier~~ received from the sending means ~~of the paging unit~~.

8. (currently amended) The paging system according to Claim 5 wherein the sending means ~~of each of the paging unit~~ sends at least said information including said ~~first~~ second identifier of the received system message, and the updating ~~and sending~~ means of the system controller, responsive to the sending means ~~of each of the paging units~~, updates the registration of the paging unit to the first identifier of the transmission system having the second identifier which is the same as the second identifier ~~of the first identifier~~ received from the sending means ~~of the paging unit~~ and the third identifier representing the frequency of the transmission system having available page messaging capacity in the coverage area associated with the second identifier ~~of the first identifier~~ received from the sending means ~~of the paging unit~~.

9. (currently amended) The paging system according to Claim 1 wherein ~~one or more~~ some of the transmission systems have approximately the same coverage area, and said transmission systems having approximately the same coverage area operate on different transmission frequencies, and wherein ~~in which~~ at least one transmission system in each of the plural coverage areas in said wide area operates for transmission of system messages on a common frequency that is common to operation of said at least one transmission system in other of the plural coverage areas, and each of said paging units are capable of receiving the system messages ~~and the page messages on the transmission~~ when transmitted on the common frequency of the registered transmission system of the paging unit when the paging unit is within the coverage area of a transmission system that transmits system messages on the common frequency.

10. (currently amended) The paging system according to Claim 9 wherein each of said paging units, responsive to receiving an updated ~~registered~~ transmission system registration, receives the system messages and the page messages on the transmission frequency of the updated transmission system.

11. (currently amended) The paging system according to Claim 1 wherein said updating ~~and sending~~ means of the system controller sends the information representing the updated transmission system to the paging unit in a confirmation message.

12. (currently amended) The paging system according to Claim 11 wherein said updating ~~and sending~~ means of the system controller sends the confirmation message by routing the confirmation message through the transmission system identified by the sending means ~~of the paging unit~~.

13. (currently amended) The paging system according to Claim 1 wherein each of said paging units further comprises ~~memory and~~ means for recording one or more time periods in said memory of the paging unit related to possible nonreceipt of page messages ~~when the reception of page messages is unlikely in accordance with~~ the paging unit is operative to receive within a predefined interval but has not received ~~receiving~~ within the predefined

interval, the system message or messages of the transmission system to which the paging unit is currently registered ~~within a predefined interval~~.

14. (currently amended) The paging system according to Claim 13 wherein said sending means ~~of each of said paging units~~ further comprises means for sending to the system controller data representing said one or more time periods in said memory of the paging unit.

15. (currently amended) The paging system according to Claim 13 wherein ~~each of said paging units further comprise means for~~ said sending means is operative to send to the system controller data representing said time periods in said memory of the paging unit when one of a certain input from the user of the paging unit is received by the paging unit [,] and said one or more of said time periods exceed a predefined interval.

16. (currently amended) The paging system according to Claim 13 wherein said recording ~~mean~~ means of each of said paging units further records in said memory one or more time periods when the paging unit is logically off.

17. (currently amended) The paging system according to Claim 14 wherein said system controller further comprises:

a time source for providing time information;

a message database stored in said memory of the system controller having copies of each of the page messages routed to each of the paging units with at least the time information from said time source when the page message was routed; and

means for receiving the data representing said one or more time periods and resending any page messages sent during said one or more time periods to the paging unit which sent the data representing the one or more time periods ~~in accordance with said message database~~.

18. (currently amended) The paging system according to Claim 4 wherein said unique identifier of each of said transmission systems represents a unique first identifier, each of said paging units has a unique paging unit identifier, and said sending means ~~in each of said paging units~~ comprises:

means for sending to the system controller at least the unit identifier of the paging unit and the first identifier of the transmission system from the received system message sent from one of the transmission systems different than the transmission system to which the paging unit is registered.

19. (currently amended) The paging system according to Claim 18 wherein said routing database associates the unit identifier of each of said paging units to the first identifier of the transmission ~~systems~~ system to which the paging unit is registered.

20. (currently amended) The paging system according to Claim 19 wherein said updating ~~and sending~~ means of the system controller revises the routing database to register the paging unit of the received unit identifier to a transmission system having one of:

(a) the first identifier of the transmission system in the information received from the sending means ~~of the paging unit~~, and

(b) the first identifier of the transmission system having approximately the same coverage area as that associated with the first identifier of the transmission system in the information received from the sending means ~~of the paging unit~~.

21. (currently amended) The paging system according to Claim 1 wherein said ~~sending means of~~ each of the paging units further comprises means for notifying the user of the paging unit of the need to update the registration of the paging unit.

22. (currently amended) The paging system according to Claim 1 wherein:
one or more of said paging units ~~represent~~ are two-way paging units;
one or more of said transmission systems have a two-way paging receiver network capable of communication with the two-way paging unit when located in their coverage areas;
and

a respective one of said sending means ~~of~~ is associated with a respective one of each of the two-way paging units and comprises means for sending, via the two-way paging receiver network of one of the transmission ~~system~~ systems, to the system controller at least the

information identifying the transmission system from the system message received from one of the transmission systems different from the registered transmission system of the paging unit.

23. (currently amended) The paging system according to Claim 22 wherein:

each of said transmission systems further sends information in said system message indicating whether the transmission system has a two-way paging receiver network; and

said sending means ~~of the~~ associated with a paging units representing unit that is a two-way paging unit that communicates units communicate to the system controller via ~~one of the a~~ two-way receiving network of a transmission system having a two-way paging receiver network, when the received system message sent from one of the transmission systems other than the transmission system to which the paging unit is registered has the information indicating a two-way paging receiver network is available, ~~and a telephonic-based connection to the controller.~~

24. (currently amended) The paging system according to Claim 1 wherein:

each of said transmission systems further comprises a time source for provide time information, and sends in said system message the time of transmission of the system message in accordance with said time information; and

said paging units each have a clock which is maintained in correspondence with the time of transmission of one or more of the system messages received by the paging unit.

25. (currently amended) The paging system according to Claim 1 wherein the sending means further comprises a telephone and wherein each of said transmission systems further sends in said system message ~~at least one access~~ information representing a telephone number for use in communicating associated with the system controller.

26. (currently amended) The paging system according to Claim 25 wherein said sending means ~~of each of said paging units connects~~ further comprises a connection to the system controller ~~in accordance with the access number of the received system message to send for sending data representing at least the information from the received system message~~

identifying the transmission system which sent the received system message received by the paging unit.

27. (canceled) The system according to Claim 25 wherein said access number represents a telephone number associated with the controller.

28. (currently amended) The paging system according to Claim 1 wherein said sending ~~means mean of each of said paging units~~ comprises an audio interface integrated on the paging unit capable of transmitting audio signals for establishing a telephonic connection to the system controller and transmitting data to the system controller.

29. (currently amended) The paging system according to Claim 1 wherein a respective said sending means ~~of~~ is associated with a respective each of said one-way paging units, and each of said respective sending means further comprises:

an external interface, external to the one-way paging unit, for sending signals; and
a device for receiving said signals and establishing a connection with the system controller for transmitting data.

① 30. (currently amended) The paging system according to Claim 29 wherein said device represents one of a cell and land telephone capable of receiving said signals from said external interface.

31. (currently amended) The paging system according to Claim 1 wherein a respective said sending means is associated with a respective ~~of~~ each of said one-way paging units and further comprises transmitting means for transmitting data to the system controller via a telephonic connection enabled by the user of the paging unit.

32. (currently amended) The paging system according to Claim 31 wherein said ~~transmission transmitting~~ means ~~of one or more of said paging units~~ for transmitting data to the system controller further comprises one or more push buttons on the paging unit to establish said telephonic connection and send data to the system controller.

33. (currently amended) The paging system according to Claim 1 wherein a respective said sending means ~~of~~ is associated with a respective each of said paging units and further comprises transmitting means for automatically establishing telephonic connection to the system controller for transmitting data.

34. (currently amended) The paging system according to Claim 1 further ~~comprises~~ comprising one or more system control input units which receives data from the sending means ~~of each of the paging units~~ and transmits said received data to said system controller representing at least information which uniquely identifies the transmission system having sent the last system message received by the paging unit and uniquely identifies the paging unit.

35. (currently amended) The paging system according to Claim 1 wherein said sending means ~~of each of said paging units~~ sends data to said system controller by one of a telephonic-based connection and a two-way paging network.

D 36. (currently amended) The paging system according to Claim 1 further comprising at least one message input unit for ~~receiving~~ inputting page messages ~~for~~ to the system controller having information designated to one or more of said paging units for routing respectively to the respective transmission systems to which the paging units are registered.

37. (currently amended) The paging system according to Claim 1 wherein said memory of the system controller stores a group database identifying groups of one or more of said paging units under unique group identifiers, and said system controller further comprises means for receiving a page message referencing one of the group identifiers and determining which transmission systems have registered paging units that are identified with the group identifier and routing said page message to said transmission systems having registered paging units that are identified with the group for transmission to each of the paging units of the group in accordance with said group ~~the routing~~ database and through the respective registered transmission system of the paging unit.

38. (currently amended) The paging system according to Claim 37 wherein each of said paging units has a unique unit identifier and at least some of the paging units have an associated group identifier that is stored in the memory of the paging unit and each of said at least some of the paging units having an associated group identifier further comprises means for receiving paging a page message addressed to one of the unit identifier for the paging unit and one of the group ~~identifiers~~ identifier to which the paging unit is associated.

39. (currently amended) The paging system according to Claim 1 wherein the information in each of the system messages which uniquely identifies the transmission system sending the system message comprises a regional identifier in coded form ~~coverage area of the transmission system,~~ and a frequency identifier in coded form representing the frequency at which the transmission system operates for transmitting page messages, ~~and a system identifier distinguishing said system from any other systems for providing page message to paging units.~~

① 40. (currently amended) The paging system according to Claim 1 wherein each of said one-way paging units is associated with a respective sending means that is external to the one-way paging unit and each one-way paging unit further comprises:

a paging receiver for receiving paging page messages and system messages when located in the coverage area of at least one of the transmission systems;

~~means~~ a decoder for decoding received system messages, and received paging page messages when addressed to the paging unit; and

a the paging unit controller being operative for automatically enabling said ~~determining mean and~~ sending means.

41. (currently amended) The paging system according to Claim 1 wherein each of said ~~means for sending periodic system messages for each of said~~ transmission systems comprises:

a time source for providing date and time;

a system message generator for generating periodically the system messages having said information, said information uniquely identifying said transmission system, and said date and time from said time source;

a paging encoder for encoding generated system messages in accordance with a paging protocol;

a regional controller for formatting the encoded system messages; and

one or more transmitter sites having antennas which broadcast said formatted encoded system messages in the coverage area of the transmission system.

42. (currently amended) The paging system according to Claim 41 ~~1~~ wherein ~~said means for sending page messages for~~ each of said transmission systems includes a ~~said~~ paging encoder for encoding page messages received from the system controller, ~~said~~ a regional controller for formatting the encoded page messages, and ~~said~~ one or more transmitter sites for broadcasting said formatted encoded page messages.

43. (currently amended) The paging system according to Claim 1 wherein each of said paging units is controlled so that when operative to receive but not receiving said system message from the transmission system to which said paging unit is registered within a predefined interval the paging unit enters a no service state until one of the system messages from the transmission system to which said paging unit is registered is again received, and said paging unit receives from said system controller information identifying the updated transmission system registered to the paging unit.

44. (currently amended) The paging system according to Claim 43 wherein said paging units each further comprises:

a time source for providing time information; and

memory; and

means for recording one or more time periods in an array in said memory in accordance with said time source when the paging unit is in the no service state.

45. (currently amended) The paging system according to Claim 43 wherein:

one or more of the transmission systems have has approximately the same coverage area as another transmission system of the transmission systems and some of the transmission systems have different coverage areas from each other areas and said the transmission systems

having approximately the same coverage ~~area~~ areas operate on different frequencies to send ~~paging~~ page messages and system messages;

~~at least one of~~ said transmission systems ~~in each~~ having different coverage areas operate ~~area operates~~ on a common frequency;

each of the paging units are capable of receiving page messages and system messages on the different frequencies and the common frequency; and

each of the paging units after entering the no service state ~~reset~~ resets the frequency of reception to the common frequency.

46. (currently amended) The paging system according to Claim 1 wherein said system controller further comprises:

a time source for providing date and time; and

a message database stored in said memory of the system controller having copies of each page message routed to each of the paging units with the time from said time source that the page message was routed.

47. (currently amended) The paging system according to Claim 1 wherein one or more of said plurality of paging units ~~represent~~ comprise two-way paging units.

48. (currently amended) The paging system according to Claim 1 wherein the information sent in the system message from each of the transmission systems ~~uniquely~~ identifying the transmission system represents a unique identifier for the transmission system, and said page controller of each of said paging units further comprises:

~~memory storing at least the identifier of transmission system to which the paging unit is registered; and~~

~~said determining means~~ has means for comparing the identifier information stored in said memory with the identifier of each received system message to determine when the paging unit receives one of the system messages sent from one of said transmission systems different from the transmission system to which the paging unit is registered.

49. (currently amended) The paging system according to Claim 1 wherein each of said transmission systems comprises one or more transmission sites in the coverage area associated with the transmission system for enabling page messages to reach the paging units in the coverage area associated with the transmission system.

50. (currently amended) A paging system for providing page messages to radio paging receiving units over a wide area through a plurality of regional transmission systems, said system comprising:

means for routing page messages to each of said paging units through one of said transmission systems to which the paging unit is registered, each of said paging units being registered to one of said transmission systems;

means for maintaining in a database copies of each of the page messages routed to one or more of said paging units with a time associated with a page message;

D a plurality of regional transmission systems having coverage areas in said wide area in which each of said transmission systems sends page messages received from the routing means to paging units located in their associated coverage area and sends a periodic system message having information which uniquely identifies the transmission system to paging units located in their associated coverage area;

— a plurality of paging units capable of receiving page messages and system messages when located in the coverage area of at least one of the transmission systems, in which each of said paging units, when receiving at least one of the system messages sent from one of said transmission systems different from the transmission system to which said paging unit is registered, transmits to the routing means at least the information from the received system message identifying the transmission system; ~~in which one or more of said plurality of paging units represent one-way paging units without RF transmission capability over a two-way paging network;~~ and a memory and a paging unit controller in at least one of the paging units for determining a time period or periods in which system messages were not received after a predefined interval from the transmission system to which the paging unit is registered;

said routing means in response to each of said paging units comprises means for re-registering the paging unit to one of the transmission systems whose coverage area the paging unit has entered in accordance with the information transmitted from the paging unit; and

means for resending from the database copies of any page messages sent to a paging unit which were routed during any of said time period or periods and which may not have been received by the paging unit during said time period or periods.

51. (currently amended) The paging system according to Claim 50 wherein said re-registration means further comprises means for sending to the paging unit information having at least the transmission system to which the paging unit is re-registered.

52. (currently amended) The paging system according to Claim 50 further comprising: wherein said at least one of the paging units having the memory in the paging unit controller comprise one-way paging units.

means for maintaining in a database copies of each of the page message routed to one or more of said paging units with the time routed;

means in at least one of the paging units for determining any time periods in which system messages were not received after a predefined interval from the transmission system to which the paging unit is registered; and

means for sending from the database copies of any page messages sent to a paging unit which were routed during any of said time periods.

53. (currently amended) A method for providing page messages to radio receiving paging units over a wide area through a plurality of regional transmission systems comprising the steps of:

registering each of said paging units to one of said transmission systems, in which one or more of said paging units ~~represent~~ comprise one-way paging units ~~without RF transmission capability over a two-way paging network,~~ a memory of each paging unit storing information representing the one of said transmission systems to which the paging unit is registered;

routing page messages to each of said paging units through one of said transmission systems to which the paging unit is registered;

sending routed page messages by each of the transmission systems to the paging units located in coverage areas associated with said transmission systems;

sending a periodic system message from each of said transmission systems having information which uniquely identifies the transmission system to one or more of said paging units located in the coverage area of the transmission system;

receiving at each of the paging units page messages sent from the transmission system registered to the paging unit when located in the coverage area of the transmission system registered to the paging unit;

receiving at least one system message at each of the paging units when the paging unit is located in the coverage area of at least one of the transmission systems;

re-registering ~~each~~ one of the paging units to a different one of said transmission systems from the transmission system the paging ~~units~~ unit is registered when the paging unit receives at least one of the system messages sent from one of said transmission systems different from the transmission system to which said paging unit is registered and wherein at least one of the system messages includes an identifier that identifies a transmission system different from the transmission system the paging unit is registered to in accordance with a comparison with the information stored in the memory of the paging unit; and

D sending to ~~each of~~ said paging unit ~~units~~, subsequent to said at least one of the system messages, a message having information representing the transmission system to which the paging unit is re-registered and storing this information in the memory to provide an updated registration of the paging unit.

54. (currently amended) The method according to Claim 53 further comprising:

recording one or more time periods in which the paging unit does not receive within a predefined interval the system message of the transmission system to which the paging unit is registered;

storing in a message database copies of each page message routed to each of the paging units with the time information that associated with the page message ~~was routed~~; and

resending any page messages routed to the paging unit during said one or more time periods in accordance with said message database.

55. (currently amended) A method for routing page messages to radio receiving paging units through one or more transmission systems comprising the steps of:

receiving page messages, each of said page ~~message~~ messages having message data and identifying information of one or more of the paging units to receive the page message;

storing in at least one first database information associating each paging unit to one of the transmission systems;

routing each page message received to one of the transmission systems in accordance with said identifying information of the page message and the information of said first database for sending of the page message to a respective paging unit by a respective one of the transmission systems;

storing in at least one second database information about each page message routed representing at least the paging unit associated with the page message in accordance with the identifying information of the page message, the message data of the page message, and the time the page message was routed;

maintaining in at least one of the paging units one or more records of certain time periods related to possible nonreceipt of messages transmitted to said at least one of the paging units; and

resending page messages to said at least one of the paging units from said second database any message previously sent to said at least one of the paging units ~~unit which~~ having a time routed during said certain time periods.

56. (currently amended) The method according to Claim 55 further comprising the step of updating said first database to ~~associate~~ register one of the paging units with another of the transmission systems after the one paging unit moves into the coverage area of one of the transmission systems different from the transmission system to which the paging unit is registered and storing information identifying the another of the transmission systems in a memory of the said one of the paging units.

57. (currently amended) A controller for routing messages to radio receiving paging units in a wide area paging system having ~~one or more~~ plural transmission systems with coverage areas in the wide area, in which the radio paging units can detect when they have moved into a new coverage area of one of the transmission systems ~~and communicate to the~~

~~controller information related to the transmission system of the new coverage area, said controller comprising:~~

memory storing a routing database registering each of said paging units with one of said transmission systems;

means for routing page messages to each of said paging units through one of said transmission systems to which the paging unit is registered in accordance with said routing database, in which one or more of said plurality of paging units represent one-way paging units ~~without RF transmission capability over a two-way paging network; and~~

~~means ,responsive to the receiving a communication from the paging unit with information related to a coverage area, for updating the registration of the paging unit in the routing database to one of the transmission systems in accordance with the information received from the paging unit, and sending for transmission to the paging unit at least information representing the updated transmission system registered to the paging unit and sending to said updated transmission system for transmission to said paging unit page messages previously transmitted to the paging unit by the paging unit's previously registered transmission system.~~

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58. (currently amended) A one-way radio receiving paging unit for receiving messages from one or more transmission systems having coverage areas in which each radio paging unit is registered to one of the transmission systems for receiving paging messages from the transmission system, and each transmission system sends a periodic system message identifying the transmission system and a telephone access number for use in changing registration of a paging unit, ~~said the one-way~~ radio paging unit comprising:

~~means a receiver~~ for receiving the system messages of at least one of the transmission systems when the one-way paging unit is located in the coverage area of said one of said transmission systems, and receiving the page messages sent from the transmission system registered to the one-way paging unit when the one-way ~~paging~~ unit is located in the coverage area of the transmission system registered to the one-way paging unit;

~~means, including a memory storing information related to the transmission system registered to the paging unit, for determining when the one-way paging unit receives at least~~

one of the system messages sent by one of said transmission systems different from the transmission system registered to the one-way paging unit; and

means, responsive to said determining means, for providing a signal including information corresponding to the telephone access number for use in changing registration of the one-way paging unit sending at least the information uniquely identifying the transmission system from said received system message sent by one of said transmission systems different from the transmission system registered to the paging unit, in which said paging unit represents a one-way wireless paging unit without RF transmission capability over a two-way paging network.

59. (currently amended) The paging system according to Claim 22 wherein said sending means of the paging units representing two-way paging units is capable of communicating through a telephonic-based connection to the system controller when the paging unit is located in the coverage area of any one of the transmission systems.

60. (currently amended) The paging system according to Claim 1 wherein the system message is embedded in the radio paging protocol used by one or more of said transmission systems.

61. (previously presented) The method according to Claim 53 wherein the system message sent by each of the transmission systems is embedded in the radio paging protocol used by at least one of said transmission systems.

62. (new) The paging system according to Claim 39 wherein the information in each of the system messages which identifies the transmission system sending the system message further a system identifier distinguishing said system from any other systems for providing page message to paging units.

63. (new) The paging unit according to Claim 58 and including a display, responsive to the signal, for displaying the telephone access number for changing registration.

64. (new) The paging unit according to Claim 58 in combination with a communication device for automatically dialing the telephone access number in response to the signal.

65. (new) A method of providing page messages to a radio receiving paging unit over a wide area through a plurality of regional page message transmission systems forming part of a page message delivery communication system, the method comprising the steps of:

providing a registration of the paging unit to a respective first of said regional transmission systems in accordance with a regional identifier code for the first regional transmission system, said code being stored in a memory of the paging unit;

periodically transmitting system messages from each of the regional transmission systems which includes information identifying respectively the respective regional transmission system;

determining if the paging unit is receiving a system message from a regional transmission system that the paging unit is not registered to;

providing a request to change the registration of the paging unit and identifying a second regional transmission system from which it has received a system message and which is different from said first regional transmission system which the paging unit is currently registered to;

① providing an updated registration for the paging unit and providing an updated registration code stored in the memory of the paging unit, the updated registration code including a regional identifier code identifying a third regional transmission system that is different than the regional identifier code identifying said first registered transmission system and different than a regional identifier code associated with said second regional transmission system;

routing page messages intended for transmission to the paging unit from the third regional transmission system in order to balance the page message delivery load of the page delivery communication system.

66. (new) A method of providing page messages to radio receiving paging units over a wide area through a plurality of regional page message transmission systems forming part of a page message delivery communication system, the method comprising the steps of:

registering each of said paging units to a respective one of said regional transmission systems in accordance with an identification code for the respective regional transmission system stored in a memory of the respective paging unit to provide each of the respective paging units with an identification code of a current registration of the regional transmission system to which it is currently registered, wherein the registration code of a paging unit includes information relative to identification of a first regional transmission system and a first frequency of transmission of messages;

periodically transmitting system messages from each of the regional transmission systems which includes information identifying the respective regional transmission system and a frequency of transmission of messages;

determining for a paging unit that it is receiving a system message from a second regional transmission system that it is not registered to, said system message being received by the paging unit at the first frequency;

providing a request to change registration of the paging unit in accordance with a determination from said determining step;

modifying the registration code of the paging unit to establish an updated registration for receipt of page messages with an updated registration code, the updated registration code including information relative to identification of the second regional transmission system and the second frequency of transmission of messages; and

routing page messages intended for transmission to the paging unit from the second regional transmission system at the second frequency in order to balance the page message delivery load of the second regional transmission system.

67. (new) A method of providing page messages to radio receiving paging units over a wide area through a plurality of regional page message transmission systems comprising the steps of:

registering each of said paging units to a respective one of said regional transmission systems in accordance with an identification code for the respective regional transmission system stored in a memory of the respective paging unit to provide each of the respective paging units with an identification code of a current registration of the regional transmission system to which it is currently registered;

transmitting system messages from each of the regional transmission systems which include information identifying respectively the respective regional transmission system;

determining for each paging unit if it has received, within a predetermined period of time, system messages from the respective regional transmission system to which it is currently registered identifying the regional transmission system;

storing in memory within a paging unit information relative to a period or periods of nonreceipt of the system messages from the respective currently registered regional transmission system;

communicating to a controller external to the paging unit information relative to a period or periods of nonreceipt of the system messages from the respective currently registered regional transmission system; and

newly transmitting in accordance with the information relative to the period or periods of nonreceipt, page messages to the paging unit comprising page messages previously transmitted by the previously currently registered regional transmission system to the paging unit during the period of nonreceipt.

68. (new) The method according to Claim 67 further comprising the step of modifying the registration of the paging unit to a different identification code and establishing an updated registration for routing of page messages from a different regional transmission system and wherein the step of newly transmitting the page messages is performed by the different regional transmission system.

69. (new) A method of providing page messages to a radio receiving paging unit comprising the steps of:

transmitting system messages and page messages from a transmission system, the system messages including information identifying the transmission system;

storing in memory within the paging unit information relative to a period of nonreceipt of system messages from the transmission system;

communicating to a controller external to the paging unit information relative to a period of nonreceipt of the system messages from the transmission system; and

newly transmitting to the paging unit from a transmission system, in accordance with

the information relative to the period of nonreceipt, page messages previously transmitted to the paging unit during the period of nonreceipt but not received by the paging unit during said period.

70. (new) A method of distributing page messages to radio receiving paging units over an area through a plurality of different page message transmission systems forming part of a wide area transmission system, the method comprising the steps of:

(a) transmitting system messages at a predetermined frequency from each of the transmission systems which includes information of transmission system identification and radio frequency of transmission of page messages, wherein a transmission system identification associated with a first of the transmission systems of the wide area transmission system is different from a transmission system identification associated with a second of the transmission systems forming a part of the wide area transmission system and further wherein transmission of certain page messages by the first transmission system may be at a first radio frequency that is different than a second radio frequency of transmission of certain page messages by the second transmission system;

(b) transmitting system messages by the first transmission system to at least one of the paging units to identify the second transmission system and the second radio frequency of transmission by the second transmission system;

① (c) storing in memory within the said at least one of the paging units information relative to the identification of the second transmission system and information relative to the identification of the second radio frequency; and

(d) operating the said at least one of the paging units so as to receive page messages from the second transmission system at the second radio frequency.

71. (new) The method according to Claim 70 wherein the paging unit is adjusted automatically to receive page messages from the second transmission system in accordance with the information stored in memory in step (c).

72. (new) The method according to Claim 71 further comprising:

(e) prior to step (b):

(A) transmitting system messages by the first transmission system to the paging unit to identify the first transmission system and the first frequency of transmission by the first transmission system;

(B) storing in memory within the paging unit information relative to the identification of the first transmission system and information relative to the first radio frequency of transmission of page messages from the first transmission system; and

(C) operating the paging unit so as to receive page messages from the first transmission system at the first radio frequency.

73. (new) The method according to Claim 70 further comprising:

(e) prior to step (b):

(A) transmitting system messages by the first transmission system to the paging unit to identify the first transmission system and the first frequency of transmission by the first transmission system;

(B) storing in memory within the paging unit information relative to the identification of the first transmission system and information relative to the first radio frequency of transmission of page messages from the first transmission system; and

(C) operating the paging unit so as to receive page messages from the first transmission system at the first radio frequency.

74. (new) A method of operation of a paging unit for use in a wide area transmission system having a plurality of regional transmission systems each providing periodic system messages, the wide area transmission system having a system controller and a storage system for storing page messages previously routed for transmission to paging units with associated time information, the method comprising:

operating a paging unit controller within the paging unit to determine if there is receipt by the paging unit of periodic system messages transmitted by one of the regional transmission systems; and

in response to a determination by the paging unit controller that there is nonreceipt of the periodic system messages for a predetermined time period or periods, providing a signal by the paging unit to identify the period or periods of nonreceipt of system messages.

75. (new) A paging unit for use in a wide area transmission system having a plurality of regional transmission systems each providing periodic system messages, the wide area transmission system having a system controller and a storage system for storing page messages previously routed for transmission to paging units with associated time information, the paging unit comprising:

a paging unit controller within the paging unit operative to determine if there is receipt by the paging unit of periodic system messages transmitted by one of the regional transmission systems, and in response to a determination by the paging unit controller that there is nonreceipt of the periodic system messages for a predetermined time period or periods during which the paging unit is operative to receive the periodic system messages, the paging unit controller is operative to provide a signal to identify the period or periods of nonreceipt of system messages.

76. (new) The paging unit according to Claim 75 further comprising a display operative in response to the signal for displaying the period or periods of nonreceipt of system messages.
